

Application of Chih-Ta Star Sung – U.S. Application No. I0/626,917

**Our four main claims are**

**Claim 1** A method for motion estimation comprising:

saving motion vectors, MVs of a partial or an entire frame of at least one frame into a storage device for the best match macroblock searching of the current or the neighboring frames; and

calculating the motion vector, MV, of a macroblock within a frame by firstly searching a corresponding or the neighboring macroblocks of the current or at least one neighboring frame.

**Claim 8** A method of motion estimation, further comprising

applying the adaptively predetermined values of the MV, the MAD or the block differences to determine the sub-sampling ratio, or to decide a refiner or a coarser pixel resolution, or to decide the prediction mode of the initial point of searching or to decide whether to skip block, or to decide whether to early select or to early give up the current macroblock.

**Claim 16** A method of motion estimation, further comprising:

the procedure of the best match block searching is applied to the blocks with the MV different from the frame motion vector, the FMV.

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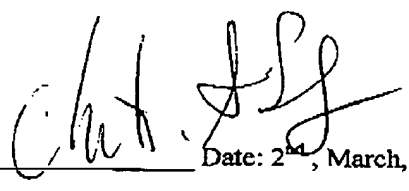
Claim 19 An apparatus for motion estimation comprising:

a device determining the motion vector, MV of the current frame or at least one neighboring frame by comparing the targeted macroblock to the neighboring macroblocks; and

a storage device that saves the MV of a partial or an entire frame of the current frame or at least one neighboring frame;

Details of 30 pages document explaining the difference between this invention is on the way by a postal letter which our pattern attorney will send you a copy directly from Taiwan through fax.

Respectfully submitted,

By:  Date: 2<sup>nd</sup>, March, 2007